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ICT Resource Utilization, Availability and Accessibility by Teacher Educators for Instructional Development in College of Education katsina-Ala

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Abstract
This study investigated the utilization of ICT in the instructional mix by teacher educators in College of Education (COE) Katsina-Ala, Benue state , Nigeria. A total of forty COE Katsina-Ala teacher educators from 5 schools randomly selected formed the sample size from a population of 287. The researchers adopted the Ex post Facto research design and formulated two research questions to guide in the study. A researcher made instrument tagged Information and Communication Technology Questionnaire (ICTRQ)was used for data collection. The reliability co-efficient of the instrument was 0.71, which was used for data collected. The data was subjected for analyses using frequencies and percentages. The findings revealed that ICT resources were not available and for that reason, teacher educators could not access them for instructional development purposes. Based on these, it was recommended that the college authority should avail teacher educators in the institution with ICT resources and sponsor them on training and retraining programmes to produce ICT compliant products.
Keywords: ICT; Teacher Educators; Utilization; Availability; Accessibility.

Introduction

Globally, the Information and Communication Technology (ICT) world has initiated a transition of emphasis from an analogue educational research based technological development to that of a digital knowledge based technological development in education. This has made it one of the basic building blocks of modern society. The technological change process has accelerated in tandem to create a new world power based ICT. Although ICT resources have been looked upon as tools for the upliftment of the standard of education in any nation, the level of compliance in implementing the ICT resources in instructional development process leaves much to be desired in Nigerian higher education system.

Recent developments in ICT have drastically affected educational procedure for improved quality of education offered to students. ICT resources in instructional delivery in schools will serve a dual purpose and more efficient classroom instruction (Nzewi, 2009; Umoren, 2006).

It is in the pursuance of the need to access international best practices that the Federal government reviewed the National Policy on Education (1998) to the current one (NPE, 2004) to accommodate the introduction of ICT into the school system in keeping with the dynamics of social change and its demand on education. Colleges of education prepare teachers that feed the primary and secondary school levels of education in Nigeria with manpower demands. It is at this level that they should have their first encounter with technology in the classroom, this they will put to use when eventually they leave school and are gainfully employed to teachers in the primary and secondary schools.

It is in this light that the training of student teachers, who are expected to drive the new ICT advanced education system, is brought afore. The advancement in which ICT resources offer in higher education, can be evident through accessibility to quality resource materials and instructional delivery. This can only be attained when it is drastically integrated into the instructional process in the teacher education system. Productive instructional delivery enhances learners' creative and intellectual development through the use of ICT resources, for instance, in the use of multimedia images, graphics, audio, text and motion for high quality learning.

ICT in Teacher Education

ICT has the potential to transform the way education is delivered and promotes new opportunities therefore, enhancing scholarship and enquiries. This can only be attained when teachers, who are still the key to learning, have developed and utilized the necessary pedagogical competencies for instructional delivery through

ICT resource utilization. Jones (2003) opined that effective learning is dependent on the will and competencies of the teacher in instructional delivery of lessons. This implies that teachers must undergo capacity building in ICT resources at the NCE and university level of education to enable them utilize maximally its benefit in instructional delivery.

Furthermore, ICT resources are instructional delivery tools used to explore, investigate, solve problems, interact, reflect, reason and learn concepts in the classroom. This innovation permits alternative types of educational patterns for facilitating the teaching/learning process (Umoren, 2003). She conceptualized the ICT resources as the e-learning which is most commonly associated with higher education and corporate training that uses an information network through the internet, an intranet (LAN) or extranet (WAN). Electronic learning learning (e-learning) is used both in informal and formal educational setting for facilitation, instruction, interaction and for instructional delivery. Web-based learning is also a subset of e-learning. Another type of ICT resources is the virtual teaching which entails instructional delivery through teleconferencing the video conferencing technique. Web based instruction uses internet and the World Wide Web (WWW) as the major component of learning materials and instructional resources for effective instructional delivery. Audio media (instructional slides and tutorials) are teaching/learning aids made and written into compact disks, graphics and texts. Through the power point, instructional delivery is impactful to slow and fast learners. The need to assess the involvement of teacher educators in COE Katsina-Ala in the mind blowing programmes of ICT resources utilization has informed this research work.

Empirical Studies on ICT Resources Availability and Accessibility in Instructional Development

The efficacy of ICT in higher education has been proved beyond reasonable doubt. It has been known to enhance educational opportunities of individuals and groups constrained from attending traditional universities as well as the use of computers as tutors for drills and practise as well as instructional delivery (Potashnik & Capper, 1998 and Font, 2002, in Umoren 2006). The unfortunate thing is that, ICT resources are beyond the reach of teacher educators and as such, they cannot access them for the purpose instructional development.

Not much was found on Studies available on ICT availability and accessibility in Colleges of Education by teacher educators but studies cited here were done in secondary schools by Pelgrum (2001), in Idoko and Ademu 2010; Eriba and Adejoh (2004), in Idoko and Ademu (2010), both found out that ICT availability often been one of the most important obstacles to technology adoption and integration in learning. They indicated that there is urgent need for more computers if a country is to successfully integrate ICT in public secondary schools (Pp.177-178).

Ezeoba (2007) carried out an investigation of ICT availability in schools in Onitsha on 100 nursery school teachers which revealed that the media availability average was less than 20% over 50%. It also found out that the degree of utilization in instructional delivery was that teachers used mostly books and over 60% did not use ICT resources at all.

Idoko and Ademu (2010) in an investigation of the challenges of ICT for teaching/learning as perceived by agricultural science teachers in 210 secondary schools from the three educational zones in Kogi State also found that ICT facilities were not available in secondary schools (Pp. 177-183).

Similarly, Fakeye (2010) also investigated English language teachers' knowledge and use of ICT in Ibadan Southwest LGA of Oyo State and found that availability of computers and their connectivity to the internet was non-existent in virtually all the school studied and utilization, which is dependent on availability, and because availability is poor, thus, usability was also found to be poor (Pp. 270 - 276.).

These findings have been made elsewhere but not in COE Katsina-Ala. The researcher then set out to see the extent to which ICT resources are available and accessible for use in instructional delivery by teacher educators in COE Katsina-Ala.

Statement of the Problem

All through the history of educational expansion in Nigeria, the development in the quality of education provided leaves much to be desired. This is an off shoot of laudable visions in the curriculum that suffered still birth as a result of epileptic implementation of laudable educational programms in our higher institutions. This can only be handled when teacher educators are developed adequately in capacity building to meet the tide of the times.

Moreover, as knowledge explorers, teacher educators must as a matter of necessity be abreast with current ingestions, research network and innovations, in the world of education. This knowledge can only be enhanced through adequate utilization of ICT resources that will lead to quality instructional delivery during lessons.

Unfortunately, as noble as these intentions seem to be, most teacher educators in COE Katsina-Ala do not have laptops and other ICT ensemble and as such cannot access the internet services needed in utilizing ICT

in the classroom, for this reason, instructional delivery may not be challenging enough as learners' knowledge would always met with stiff opposition by the teacher educators who have become adamant to change. The problem of this study therefore, is to determine the extent to which there is a relationship between ICT resources utilization by teacher educators and instructional development in COE Katsina-Ala.

Purpose of the Study

The purpose of this study was to examine the availability and accessibility of ICT resources for teacher educators in COE Katsina-Ala in instructional development.

The objectives are to;

i. Determine the availability of ICT resources for instructional development by teacher educators in COE Katsina-Ala.

ii. Determine the accessibility of ICT resources for instructional development by teacher educators in COE Katsina-Ala.

Research Questions

i. What is the relationship between availability of ICT resources and instructional development by teacher educators in COE Katsina-Ala?

ii. How does the accessibility of ICT resources by teacher educators in COE Katsina-Ala influence instructional development?

Significance of the Study

The researchers hope that the findings of the study will benefit the following bodies in the following ways;

The college administration will be informed of the state of ICT equipment for lecturers' use for instructional development purposes, whether they are adequate or in deficit. Due to the recommendations that will be made here, teaching large classes and accession of course materials will become a thing of the past.

Students in COE Katsina-Ala and other colleges of education also stand to benefit from the findings of the study when they will begin to interact with technology in the learning process in a way that on graduation, they too can use same in classroom/lesson delivery.

Findings of this study will also benefit researchers by adding to the pool of information that already exists in this area. Researchers can therefore fall back on information gathered here by replicating this study in another setting.

Finally, findings from the study would have implications for teacher educators in colleges of education and universities in incorporating training in ICT-assisted strategy in teacher preparation programmes.

Scope of the Study

This study focused on ICT resource utilization (availability and accessibility) by teacher educators in COE Katsina-Ala, Benue State. It specifically focused on whether ICT resources are available and if teacher educators, i.e. the lecturers use them for instructional development purposes. These ICT components include laptops/computers, internet services, power point presentations etc.

Research Method

The study adopted the Ex post Facto design based on the fact that the variables had already occurred and the researchers would not manipulate them, rather study them. This was also to examine the ICT utilization, availability and accessibility by teacher educators in COE Katsina-Ala. The research area was COE Katsina-Ala, in Katsina-Ala Local Government Area of Benue State, Central Nigeria. The population of the study comprised all 287 teacher educators (academic staff) in COE Katsina-Ala, Benue State. Forty teacher educators out of the 287 were sampled for the study because of the ongoing strike action embarked upon by the state owned tertiary institutions in Benue State. It was not easy to get a larger number than this who were selected using the random sampling technique.

The instrument designed and used for data collection was the Teacher Educators' Information and Communication Technology Resource Utilization Questionnaire (TEICTRUQ). TEICTRUQ had three sections A, B and C. Section A attempted to elicit demographic information such as name, qualification, department and years of experience. Section B contained question items carefully structured to elicit information on the availability of ICT resources in COE Katsina-Ala. Section C contained items based on accessibility by teacher educators in COE Katsina-Ala.

The instrument was subjected to face and content validity by three experts in the field of study. Its reliability was ascertained in a test run in a private COE not used in the main study using Cronbach Alpha that yielded 0.71 coefficient, proving that the questionnaire was reliable. It was mentioned earlier that at the time of carrying out this research, teacher educators in COE Katsina-Ala and other tertiary institutions in the state were on a strike action. As such, they could only be accessed in their places of recreation, relaxation and few in their offices. The researchers administered the instrument there and collected them on the spot themselves.

Furthermore, the Yes/No response category was adopted for the instrument in collecting data while frequencies and percentages were used in analyzing data. A score of less than 50% meant that the item was of no effect while a score of 50% and above meant that the item had significant effect.

Results

Research Question 1: What is the relationship between availability of ICT resources and instructional development by teacher educators in COE Katsina-Ala. 87.5% of the sample were not supplied laptops/computers by COE Katsina-Ala. 95.0% had personal laptops/computers. 80.0% of the laptops/computers were not connected to the internet. 82.5% of internet services provided by the college are not available in lecturers' offices. 67.5% could not access the internet using personal mobile devices. This shows that generally ICT resources are not available in COE Katsina-Ala and the only available ones are due to personal efforts of the teacher educators.

Research Question 2: How does the accessibility of ICT resources by teacher educators in COE Katsina-Ala influence instructional development? 82.5% of teacher educators were not connected to professional colleagues on internet/facebook. 82.5% did not use television as a resource material in their lectures. 70.0% could not access the internet using their mobile phone/laptops/computers. 90.0% did not use resources from their radio in lectures. 82.5% did not use power point presentation in lectures. This again implies that there is poor accessibility of ICT resources by teacher educators in COE katsina-Ala.

Summary of Findings

The study examined ICT resource utilization, availability and accessibility by teacher educators in COE Katsina-Ala. Findings revealed that;

- ICT resources were not available in COE Katsina-Ala for teacher educators' instructional development.
- Teacher educators in COE Katsina-Ala could not access ICT resources for instructional development purposes.

Discussion

Availability of ICT Resources in COE Katsina-Ala: The results in Table 1 show that ICT resources were not available in COE Katsina-Ala. The institution did not supply computers/laptops to its teacher educators, many of them owned personal laptops/computers which were not connected to the internet and as such could not access internet services in their offices for instructional development purposes. They mostly relied on personal mobile devices to access the internet. This finding corroborates with the findings of Pelgrum, 2001 in Idoko & Aremu, 2010; Eriba & Adejo, 2004; Ezeoba, 2007; Idoko & Aremu, 2010 and Fakeye, 2010; who also found that ICT resources were not available in primary and secondary schools. This situation could be explained by the fact that teacher education institutions are failing to train teachers that are ICT compliant, hence the absence of ICT resources in primary and secondary school, there are no personnel to use them.

Table 1:

Responses of Teacher Educators on the Relationship between Availability of ICT Resources and Instructional Development

Items	Response Category			
	Yes		No	
	f	%	f	%
I have a laptop/computer supplied by COE Katsina-Ala	5	12.5	35	87.5
I have a personal laptop/computer	2	5.0	38	95
My laptop/computer is connected to the internet	8	20.0	32	80
COE Katsina-Ala has provided internet services in lecturers' offices	7	17.5	33	82.5
I use a personal mobile device to access the internet	13	32.5	27	67.5

Table 2:

Responses of Teacher Educators on Accessibility of ICT Resources as they Influence Instructional Development

Items	Response Category	
	Yes	No

	f	%	f	%
I am connected to professional colleagues On internet/facebook	7	17.5	33	82.5
I use television as a resource material in my lectures	7	17.5	33	82.5
I can access the internet on my mobile Phone/laptop/computer	12	30	28	70.0
I use resources from my radio in my Lectures	4	10	36	90.0
I use overhead projector/power point Presentation in my lectures	7	17.5	33	82.5

Accessibility of ICT Resources by Teacher Educators in COE Katsina-Ala: The level of accessibility of ICT resources depends on their availability. The poor availability level of ICT resources in COE Katsina-Ala also means accessibility will be hindered for instructional development purposes. This confirms the observation of Ezeoba, 2007 and Fakeye, 2010 who also found that ICT resources were not available in primary and secondary schools. This is also attributed to the failure of teacher training institutions whose products go through the programme without the training to interact with technology in the classroom and as such lack the know how to mount these programmes in the primary and secondary schools where they are trained to teach.

Conclusion

It can be concluded from this study that, integrating ICT in the teacher training programme in colleges of education will go a long way in raising the fallen standard of education, making learning real, no longer abstract. This also motivates learners, who deserve an improved approach to their daily educational growth. As all stake holders clamour for improved quality of education through the integration of ICT in learning (NPE, 2004), the need to equip teacher training institutions and their faculty with adequate ICT infrastructure and skills becomes imperative.

Recommendations

Based on the findings of this study, it is recommended here that government should ensure that;

- ICT equipment like language laboratories, internet services, ICT hardware and software, and alternative power supply sources to drive these equipment are provided in teacher training institutions.
- Where government does not make these available, teacher training institutions should find a way of making internal arrangements whereby the cost is built into the students' school fees or tuition in order to pay the cost of these infrastructures.
- Teacher education in these institutions should be exposed to ICT use in instructional development through seminars and workshops.

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